

12.4 Pascal's Triangle

Name _____

The following is the first 5 rows of Pascal's Triangle.

<u><i>n</i></u>						
0				1		
1			1	1		
2			1	2	1	
3			1	3	3	1
4		1	4	6	4	1
5	1	5	10	10	5	1

a.) Describe at least three patterns you notice in the triangle:

b.) Add rows down to row 10. Give a rule for adding any new row to the triangle.

Expand the following polynomial multiplication problems:

a.) $(a + b)^2$

b.) $(a + b)^3$

c.) $(a + b)^4$

d.) How are the coefficients related to the triangle?

Use the pattern you found to find the expansion of $(2x + 3)^3$